



## CLAIM LISTING

Please amend the Claims as follows:

This listing of claims will replace all prior versions, and listing, of claims in the application:

*Applicant has made a good faith effort to list each and every prior claim, including any amendments or changes thereto (or status thereof) in this "Listing" section, however, should there be any discrepancy between the previous version of a claim (or status thereof) and the listing not explicitly amended, canceled or otherwise changed by this amendment, only the previous version (and status thereof) should be referred to as the intent of the Applicant.*

### Listing of the Claims:

1.

Claim 1. (Currently Amended)

A method for ~~facilitating~~optimizing a publish/subscribe communication system within a network switch, ~~comprising:~~

wherein the network switch has at least a switch and

receiving a subscription request by a plurality of line modules

for communicating data from trunk lines through the switch to

other remote trunk lines across respective line module across a

first communication network, and said network switch has a second

communication network separate from said first communication

network for connecting outside of said first communication

network at least a switching module in said switch to at least

one of the plurality of line modules, said method comprising:

~~to receive publications made to one or more event names, said~~

~~subscription request comprising an event expression that includes~~

~~a namespace that can be correlated to a plurality of different~~

~~event names;~~

~~accessing within a control module connected to said plurality of line modules a set of information pertaining to a publisher, said information comprising a particular event name to which said publisher publishes; and~~

~~resolving said event expression within said control module to determine whether said particular event name constitutes a match for said event expression, thereby determining whether said subscription request is a request to receive one or more publications made to said particular event name.~~

a communication coordinator within one of the plurality of line modules to receive publications made to one or more event names receiving a subscription request over the second communication network, said subscription request comprising an event expression that includes a namespace that can be correlated to a plurality of different event names;

accessing within a control module connected to said plurality of line modules a set of information pertaining to a publisher, said information comprising a particular event name to which said publisher publishes; and  
resolving said event expression within said control module to determine whether said particular event name constitutes a match for said event expression, thereby determining whether said subscription request is a request to receive one or more publications made to said particular event name.

Claim 2. (Original)

The method of claim 1, wherein said event expression comprises one or more wildcard indicators.

Claim 3. (Original)

The method of claim 2, wherein resolving said event expression comprises:

performing pattern matching between said event expression and said particular event name.

Claim 4. (Previously Presented)

The method of claim 1, wherein said namespace is a hierarchical namespace.

Claim 5. (Original)

The method of claim 4, wherein said hierarchical namespace comprises one or more wildcard indicators in one or more hierarchical levels of said hierarchical namespace.

Claim 6. (Previously Presented)

The method of claim 1, wherein said subscription request comprises a set of information pertaining to a subscriber, and wherein said method further comprises:

in response to a determination that said particular event name constitutes a match for said event expression, providing said set of information pertaining to said subscriber to a

communication coordinator associated with said publisher, said communication coordinator being one of a plurality of communication coordinators provided on each of said plurality of line modules within said switch.

Claim 7. (Original)

The method of claim 6, further comprising:

accessing a set of information pertaining to a second publisher, said set of information pertaining to said second publisher comprising a second particular event name to which said second publisher publishes;

resolving said event expression to determine whether said second particular event name constitutes a match for said event expression, thereby determining whether said subscription request is a request to receive one or more publications made to said second particular event name; and

in response to a determination that said second particular event name constitutes a match for said event expression, providing said set of information pertaining to said subscriber to a second communication coordinator associated with said second publisher.

Claim 8. (Original)

The method of claim 7, wherein said first particular event name and said second particular event name are different event names.

Claim 9. (Currently Amended)

A method for ~~facilitating~~optimizing a publish/subscribe communication system within a network switch, ~~comprising:~~  
wherein the network switch has at least a switch and  
~~receiving by a communication coordinator within one of a~~  
plurality of line modules for communicating data from trunk lines  
through the switch to other remote trunk lines across respective  
line module across a first communication network, and said  
network switch has a second communication network separate from  
said first communication network for connecting outside of said  
first communication network at least a switching module in said  
switch to at least one of the plurality of line modules, said  
method comprising:

~~a publication announcement indicating a desire to publish to~~  
~~a particular event name;~~

~~accessing within a control module connected to said~~  
~~plurality of line modules a set of information pertaining to a~~  
~~subscriber, said information comprising an event expression which~~  
~~may be resolved to match a plurality of different event names;~~  
~~and~~

~~resolving said event expression within said control module~~  
~~to determine whether said particular event name constitutes a~~  
~~match for said event expression, thereby determining whether said~~  
~~subscriber should receive one or more publications made to said~~  
~~particular event name.~~

a communication coordinator within one of the plurality of line modules receiving across the second communication network a publication announcement indicating a desire to publish to a particular event name;

accessing within a control module connected to said plurality of line modules a set of information pertaining to a subscriber, said information comprising an event expression which may be resolved to match a plurality of different event names;  
and

resolving said event expression within said control module to determine whether said particular event name constitutes a match for said event expression, thereby determining whether said subscriber should receive one or more publications made to said particular event name.

Claim 10. (Original)

The method of claim 9, wherein said event expression comprises one or more wildcard indicators.

Claim 11. (Original)

The method of claim 10, wherein resolving said event expression comprises:

performing pattern matching between said event expression and said particular event name.

Claim 12. (Original)

The method of claim 9, wherein said event expression comprises a hierarchical namespace.

Claim 13. (Original)

The method of claim 12, wherein said hierarchical namespace comprises one or more wildcard indicators in one or more hierarchical levels of said hierarchical namespace.

Claim 14. (Original).

The method of claim 9, further comprising:  
in response to a determination that said particular event name constitutes a match for said event expression, providing said set of information pertaining to said subscriber to a sender of said publication announcement.

Claim 15. (Original)

The method of claim 14, further comprising:  
receiving a second publication announcement indicating a desire to publish to a second particular event name;  
accessing said set of information pertaining to said subscriber;  
resolving said event expression to determine whether said second particular event name constitutes a match for said event expression, thereby determining whether said subscriber should

receive one or more publications made to said second particular event name; and

in response to a determination that said second particular event name constitutes a match for said event expression, providing said set of information pertaining to said subscriber to a sender of said second publication announcement.

Claim 16. (Original)

The method of claim 15, wherein said first particular event name and said second particular event name are different event names.

Claim 17. (Currently Amended)

An apparatus for facilitating publish/subscribe communication within a network switch, wherein the network switch has at least a switch and a plurality of line modules for communicating data from trunk lines through the switch to other remote trunk lines across respective line module across a first communication network, and said network switch has a second communication network separate from said first communication network for connecting outside of said first communication network at least a switching module in said switch to at least one of the plurality of line modules, said apparatus comprising:

a communication coordinator for receiving a subscription request across the second communication network within a line module to receive publications made to one or more event names,



said subscription request comprising an event expression that includes a namespace that can be correlated to a plurality of different event names;

a namespace server located within a control module for accessing a set of information pertaining to a publisher, said information comprising a particular event name to which said publisher publishes; and

wherein said namespace server resolves said event expression to determine whether said particular event name constitutes a match for said event expression, thereby determining whether said subscription request is a request to receive one or more publications made to said particular event name.

Claim 18. (Original)

The apparatus of claim 17, wherein said event expression comprises one or more wildcard indicators.

Claim 19. (Original)

The apparatus of claim 18, wherein the mechanism for resolving said event expression comprises:

a mechanism for performing pattern matching between said event expression and said particular event name.

Claim 20. (Previously Presented)

The apparatus of claim 17, wherein said namespace is a hierarchical namespace.

Claim 21. (Original)

The apparatus of claim 20, wherein said hierarchical namespace comprises one or more wildcard indicators in one or more hierarchical levels of said hierarchical namespace.

Claim 22. (Previously Presented)

The apparatus of claim 17, wherein said subscription request comprises a set of information pertaining to a subscriber, and wherein:

in response to a determination that said particular event name constitutes a match for said event expression, said set of information pertaining to said subscriber is provided to a communication coordinator associated with said publisher, said communication coordinator being one of a plurality of communication coordinators provided on each of said plurality of line modules within said switch.

Claim 23. (Original)

The apparatus of claim 22, further comprising:

a mechanism for accessing a set of information pertaining to a second publisher, said set of information pertaining to said second publisher comprising a second particular event name to which said second publisher publishes;

a mechanism for resolving said event expression to determine whether said second particular event name constitutes a match for

said event expression, thereby determining whether said subscription request is a request to receive one or more publications made to said second particular event name; and

a mechanism for providing, in response to a determination that said second particular event name constitutes a match for said event expression, said set of information pertaining to said subscriber to a second communication coordinator associated with said second publisher.

Claim 24. (Original)

The apparatus of claim 23, wherein said first particular event name and said second particular event name are different event names.

25-32. (Canceled)

Claim 33. (Previously Presented)

A computer readable medium comprising instructions which, when executed by one or more processors, cause the one or more processors to facilitate publish/subscribe communication within a network switch, wherein the network switch has at least a switch and a plurality of line modules for communicating data from trunk lines through the switch to other remote trunk lines across respective line module across a first communication network, and said network switch has a second communication network separate from said first communication network for connecting outside of

said first communication network at least a switching module in  
said switch to at least one of the plurality of line modules,  
said computer readable medium comprising:

instructions by a communication coordinator for causing one or more processors within one of a plurality of line modules to receive a subscription request to receive publications over the second communication network made to one or more event names, said subscription request comprising an event expression which may be resolved to match a plurality of different event names;

instructions for causing one or more processors within a control module, connected to said plurality of line modules, to access a set of information pertaining to a publisher, said information comprising a particular event name to which said publisher publishes; and

instructions for causing said one or more processors within said control module to resolve said event expression to determine whether said particular event name constitutes a match for said event expression, thereby determining whether said subscription request is a request to receive one or more publications made to said particular event name.

Claim 34. (Original)

The computer readable medium of claim 33, wherein said event expression comprises one or more wildcard indicators.

Claim 35. (Original)

The computer readable medium of claim 34, wherein the instructions for causing one or more processors to resolve said event expression comprises:

instructions for causing one or more processors to perform pattern matching between said event expression and said particular event name.

Claim 36. (Original)

The computer readable medium of claim 33, wherein said event expression comprises a hierarchical namespace.

Claim 37. (Original)

The computer readable medium of claim 36, wherein said hierarchical namespace comprises one or more wildcard indicators in one or more hierarchical levels of said hierarchical namespace.

Claim 38. (Original)

The computer readable medium of claim 33, wherein said subscription request comprises a set of information pertaining to a subscriber, and wherein said computer readable medium further comprises:

instructions for causing one or more processors to provide, in response to a determination that said particular event name constitutes a match for said event expression, said set of

information pertaining to said subscriber to a communication coordinator associated with said publisher.

Claim 39. (Original)

The computer readable medium of claim 38, further comprising:

instructions for causing one or more processors to access a set of information pertaining to a second publisher, said set of information pertaining to said second publisher comprising a second particular event name to which said second publisher publishes;

instructions for causing one or more processors to resolve said event expression to determine whether said second particular event name constitutes a match for said event expression, thereby determining whether said subscription request is a request to receive one or more publications made to said second particular event name; and

instructions for causing one or more processors to provide, in response to a determination that said second particular event name constitutes a match for said event expression, said set of information pertaining to said subscriber to a second communication coordinator associated with said second publisher.

Claim 40. (Original)

The computer readable medium of claim 39, wherein said first particular event name and said second particular event name are different event names.

Claim 41. (Currently Amended)

A computer readable medium comprising instructions which, when executed by one or more processors, cause the one or more processors to facilitate publish/subscribe communication within a network switch, wherein the network switch has at least a switch and a plurality of line modules for communicating data from trunk lines through the switch to other remote trunk lines across respective line module across a first communication network, and said network switch has a second communication network separate from said first communication network for connecting outside of said first communication network at least a switching module in said switch to at least one of the plurality of line modules, said computer readable medium comprising:

instructions by a communication coordinator for causing one or more processors within one of a plurality of line modules to receive a publication announcement over the second communication network indicating a desire to publish to a particular event name;

instructions for causing one or more processors within a control module, connected to said plurality of line modules, to access a set of information pertaining to a subscriber, said

information comprising an event expression which may be resolved to match a plurality of different event names; and

instructions for causing said one or more processors within said control module to resolve said event expression to determine whether said particular event name constitutes a match for said event expression, thereby determining whether said subscriber should receive one or more publications made to said particular event name.

Claim 42. (Original)

The computer readable medium of claim 41, wherein said event expression comprises one or more wildcard indicators.

Claim 43. (Original)

The computer readable medium of claim 42, wherein the instructions for causing one or more processors to resolve said event expression comprises:

instructions for causing one or more processors to perform pattern matching between said event expression and said particular event name.

Claim 44. (Original)

The computer readable medium of claim 41, wherein said event expression comprises a hierarchical namespace.



Claim 45. (Original)

The computer readable medium of claim 44, wherein said hierarchical namespace comprises one or more wildcard indicators in one or more hierarchical levels of said hierarchical namespace.

Claim 46. (Original)

The computer readable medium of claim 41, further comprising:

instructions for causing one or more processors to provide, in response to a determination that said particular event name constitutes a match for said event expression, said set of information pertaining to said subscriber to a sender of said publication announcement.

Claim 47. (Original)

The computer readable medium of claim 46, further comprising:

instructions for causing one or more processors to receive a second publication announcement indicating a desire to publish to a second particular event name;

instructions for causing one or more processors to access said set of information pertaining to said subscriber;

instructions for causing one or more processors to resolve said event expression to determine whether said second particular

event name constitutes a match for said event expression, thereby determining whether said subscriber should receive one or more publications made to said second particular event name; and

instructions for causing one or more processors to provide, in response to a determination that said second particular event name constitutes a match for said event expression, said set of information pertaining to said subscriber to a sender of said second publication announcement.

Claim 48. (Original)

The computer readable medium of claim 47, wherein said first particular event name and said second particular event name are different event names.

Claims 49 - 60. (Cancelled)

Claim 61. (Previously Presented)

The method of claim 1, wherein each of said plurality of line modules include a local table in which is stored information pertaining to a particularly one of said plurality of line modules.

Claim 62. (Previously Presented)

The method of claim 1, wherein the control module includes a namespace server that includes a global table containing all local table information from each of said plurality of line

modules, the namespace server using information in the global table to coordinate communication throughout the network switch.

Claim 63. (New)

A method for optimizing a publish/subscribe communication system within a network switch, wherein the network switch has at least a switch for communicating data from trunk lines through the switch to other remote trunk lines across a first communication network, and said network switch has a second underlying communication network separate from said first communication network for connecting outside of said first communication network at least a switching module in said switch to at least one of a plurality of communication modules in said network switch, said method comprising:

a communication coordinator within one of the plurality of communication modules to receive publications made to one or more event names receiving a subscription request over the second communication network, said subscription request comprising an event expression that includes a namespace that can be correlated to a plurality of different event names, said namespace including an address of at least one component of at least one of said plurality of communication modules;

accessing within a control module connected to said plurality of communication modules a set of information pertaining to a publisher, said information comprising a particular event name to which said publisher publishes; and

resolving said event expression within said control module to determine whether said particular event name constitutes a match for said event expression, thereby determining whether said subscription request is a request to receive one or more publications made to said particular event name across said second communication network.

64. (New)

The method of claim 63 wherein said trunk lines are optical fibers.

Claim 65. (New)

The method of claim 63 wherein said second communication network is an Ethernet backplane.

Claim 66. (New)

The method of claim 64 wherein said trunk lines on said first communication network are optical fibers and wherein said second communication network is an Ethernet backplane.

Claim 67. (New)

The method of claim 63 wherein communications across said second communication network combine to form a group selected from an intermediate communication layer and middleware.

Claim 68. (New)

The method of claim 63 further comprising the step of:  
providing each one communication module with a local table  
to store at least publication and subscription information  
relevant to said one communication module.

Claim 69. (New)

The method of claim 63 further comprising the step of:  
providing said network switch with at least a primary  
control module having a global table to store at least  
publication and subscription information relevant to each  
communication module connected to said second communication  
network.

70. (New)

The method of claim 63 further comprising the step of:  
providing said network switch with at least a primary control module having a global table to store at least publication and subscription information relevant to each communication module connected to said second communication network;

providing said network switch with at least a secondary control module having a global table to store at least the publication and subscription information of said primary communication module to back up said primary control module; and

providing said network switch with at least a primary control module having a global table to store at least publication and subscription information relevant to each communication